

**Work Order ID 67941**

Page 1

Tuesday, April 05, 2011 10:03:52 AM

Item ID: D350-636-016

Accept



Setup Start



Revision ID:

Stop



Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/4/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 4/8/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

*PL*Date: *4-5*

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D4168

A

IIN-D350-636

H

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-016 CHG 001

*alas***B68744**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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110

0.00



Skidtubes

Skidtubes

0.00

Skidtubes

**Memo**

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D4168

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr, section R-R

4- Locate DT8329 off of blade fitting bolt holes and drill pilot holes for blade fitting, section R-R

5- Drill fwd step holes using DT9616. Ensure proper positioning. All holes as per dwg D4168 Detail J

6- Drill pilot holes as per Dwg D4168 sheet 5 (D4168-2 details). Drill using drill Jig DT8150 &amp; DT8863A for first side only DT8863B for second side (detail K)

7- Clecko DT8863B on second side of tube and drill pilot holes for detail K.  
\*\*\*SECOND SIDE\*\*\*

8- Drill most FWD wearplate hole using DT9678 locating of 66.54" hole

9- Open up holes of Detail J to 0.297" (total of 2 holes per side) +.201 iplace per side and open holes of detail M section R-R to 0.500" as per dwg D4168

10- Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004

A/R Aluminum Rod batch: ☐ M116577

BB 11/04/21

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

11-Grind welds flush as per Dwg D4168

1 BB 11/04/26

120



QC

Quality Control

QC10- Inspect visual per QS1004- ground welds

0.00

S 11/04/27

0.00

Memo

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

S 11/04/27

0.00

Memo

FD

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Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Chemical Conversion Coat per QSI005 4.1	0.00							
	HandFinish	0.00				1		JB	11/04/28
	Hand Finishing								
150	QC3- Inspect Part Finish	0.00				1	0	BE	11/04/28
	QC	0.00							
	Quality Control								

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Required Date: 4/8/2011 Req'd Qty: 1.00



Customer:

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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side)  
as per dwg D4168.

2-Open up holes of Detail K to 0.750" (total of 4 holes per side)  
as per dwg D4168.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168  
(welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐☐☐ Sikaflex-291batch: 16918 ☐☐☐

exp. date: 12/01/15

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & QSI004  
(welding instructions on sheet 8)

A/R ☐☐☐ Aluminum Rod

batch: M116577

9- At section AP-AP drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D4168

BB

11/04/28

BE 11/05/05

BB 11/05/06

W/O:		WORK ORDER CHANGES					
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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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11-Spot face ground handling holes section (total of 4 places per side) as per  
dwg D4168

12- C'bore section CH-CH

13- Deburr holes

170



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

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Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1 ~~11-5-12~~

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: 7:40

OVEN TEMPERATURE: 320 OF

FINISH TIME: 8:20

8:10

1X ~~11/05/13~~

210

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

✓ Inspect for foreign object per QSI 024

1 ~~11/06/10~~

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	HandFinishing	0.00							
	HandFinish								
Hand Finishing	Memo	0.00							
	✓ 1- Install inserts as per Dwg D4168								
230	HandFinishing	0.00							
	HandFinish								
Hand Finishing	Memo	0.00							
	✓ 1-Inspect for Foreign Objects								
	✓ 2-Spray inside of tube with "LPS-3" batch: <u>N/A</u>								
	3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D4168								
	SIKA FLEX 241								
	BATCH: <u>AA116945</u>								
	EXP DATE: <u>12/01</u>								
	✓ 4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube								
	A/R 55-o'ring lube batch: <u>M111484</u>								
	✓ 5-Coat all exposed fasteners with "LPS Procyon" batch: <u>M1114596</u>								

1 0 all 4/06/10

1 0 all 4/06/13

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									
250	Pick Kit	0.00							
Packaging	Memo	0.00							
Packaging									
260	QC4- 100% Inspect kits for completeness	0.00							
QC	Memo	0.00							
Quality Control	*****ensure antiseize is on AN8C21A bolts*****								

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270	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPPD350-636-016								
	Location: _____								
	PPP rev: _____								
	<i>AM 68747</i>								
280	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

*P 4/6/10 (1)**11/6/15*  
*MF*  
*11-06-15*

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# Picklist Print

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Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH




Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP rev:A 10.09.28 new issue DD ver:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3490-1  Cross Bolt Spacer		Manufactured	No			160	Each	31.0000	4	4			
<div><div><u>Location</u></div><div>LG001</div><div>62450</div></div> <div><div><u>Loc Qty</u></div><div>31</div><div>31</div></div> <div><div><u>Loc Code</u></div><div></div><div></div></div>													
D3490-3  Cross Bolt Spacer		Manufactured	No			160	Each	37.0000	4	4			
<div><div><u>Location</u></div><div>LG001</div><div>63556</div><div>66968</div></div> <div><div><u>Loc Qty</u></div><div>37</div><div>8</div><div>29</div></div> <div><div><u>Loc Code</u></div><div></div><div></div><div></div></div>													
8 AN3C34A  BOLT		Purchased	No			230	Each	20.0000	1	1			
<div><div><u>Location</u></div><div>ST353</div><div>116003</div></div> <div><div><u>Loc Qty</u></div><div>20</div><div>20</div></div> <div><div><u>Loc Code</u></div><div></div><div></div></div>													

BEN/05/05  
B 67773 (4)

BEN/05/05  
B 67774 (4)

11/6/13

W/O:		WORK ORDER CHANGES					
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Start Date: 4/4/2011



Required Date: 4/8/2011



Start Qty: 1.00

Required Qty: 1.00



AN3C36A Purchased No 230 Each 209.0000 4 4  
  
 BOLT  44 11/06/10

Location	Loc Qty	Loc Code
FG	14	
101261	4	
116590	10	
FP-B	71	
<u>111925</u>	71	<u>44</u>
ST303	24	
116381	2	
116590	22	
ST353	100	
117125	100	

AN3C37A Purchased No 230 Each 0.0000 1 1  
  
 BOLT  11173435

AN3C42A Purchased No 230 Each 60.0000 1 1  
  
 BOLT  SP

Location	Loc Qty	Loc Code
ST354	60	
<u>106176</u>	60	

D3488-042 Manufactured No 230 Each 17.0000 1 1  
  
 Blade Fitting Assembly, RH  44 11/06/10

Location	Loc Qty	Loc Code
FP008	17	
59643	1	
<u>62003</u>	8	<u>44</u>
65099	8	

Tuesday, April 05, 2011 10:04:06 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Tuesday, April 05, 2011 10:04:06 AM

Page 3

Work Order ID: 67941

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

D3492-1 Manufactured No

230 Each

0.0000

8 8



B69531 (x8) M ulocalio

Plug

D3492-3 Manufactured No

230 Each

0.0000

8 8



B68252 (x8) M ulocalio

Plug

D3873-1 Manufactured No

230 Each

177.0000

7 7



M ulocalio

Bushing

## Location

## Loc Qty

## Loc Code

ST088

177

B68243

x3

64567

77

64760

100

x4

D4154-041 Manufactured No

230 Each

2.0000

1 1



M ulocalio

Wearplate Assembly

## Location

## Loc Qty

## Loc Code

FP009

2

B68361

x1

65092

2

D4170-1 Manufactured No

230 Each

38.0000

4 4



BE 11/05/05  
B 68225 (24)

Bushing

## Location

## Loc Qty

## Loc Code

LG

4

63322

4

LG002

34

65912

23

66158

11

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Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Tuesday, April 05, 2011 10:04:07 AM

Work Order ID: 67941

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

D4171-1 Manufactured No

230 Each

16.0000

1

1



Bushing



Handwritten: 11/06/10

MS21043-3 Purchased No

230 Each

1,072.000

5

5



Nut



Handwritten: 11/06/10

Location

Loc Qty

Loc Code

ST135

16

65646

16

Handwritten: X1

Location

Loc Qty

Loc Code

FG

80

103691

80

FP-B

16

112314

16

ST301

976

112314

976

Handwritten: X4

NAS1149C0363R Purchased No

230 Each

4,848.000

9

97



Washer



Handwritten: 11/06/10

Location

Loc Qty

Loc Code

ST297

4848

113889

79

114742

4769

Handwritten: X7

NAS1515H3L Purchased No

230 Each

341.0000

4

4



WASHER



Handwritten: 11/06/10

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

301

113362

301

Handwritten: X4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Tuesday, April 05, 2011 10:04:07 AM

Page 5

Work Order ID: 67941

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

230

Each

194.0000

8

8



O-RING



*ul u/a u/a*

Location

Loc Qty

Loc Code

FP-A

194

110915

147

115589

47

*x 8*

NAS1611-013

Purchased

No

230

Each

208.0000

8

8



O-RING



*ul u/a u/a*

Location

Loc Qty

Loc Code

FP

200

117291

200

FP-A

8

116582

8

*v 8*

AN960JD816

Purchased

No

250

Each

73.0000

2

2



1/2" washer, Alum



*ul u/a u/a*

Location

Loc Qty

Loc Code

FP-A

73

106043

73

*x 2*

D2744

Manufactured

No

110

Each

47.0000

1

1



Cap



*BE 11/04/20*

Location

Loc Qty

Loc Code

LG002

47

62715

18

65086

29

*1*

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Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Page 6

Tuesday, April 05, 2011 10:04:07 AM

Work Order ID: 67941



Parent Item: D350-636-016



Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT  
Extrusion Bent

Manufactured No

110 Each

9.0000

1 1



Location

Loc Qty

Loc Code

LG 68138  
66875

9  
9

1

BB 11/04/21

D2743  
Crossbolt Spacer

Manufactured No

160 Each

33.0000

8 8



Location

Loc Qty

Loc Code

LG001  
64003

33  
33

BB 11/05/05  
667766 (18)

D2739  
350 I Beam

Manufactured No

160 Each

8.0000

1 1



Location

Loc Qty

Loc Code

LG  
66981

8  
8

BB 11/04/28

ALS4-1032-225  
Insert

Purchased No

230 Each

1,305.000

4 4



Location

Loc Qty

Loc Code

FP-B  
110768  
ST282  
110768

224  
224  
1081  
1081

x4

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Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Tuesday, April 05, 2011 10:04:08 AM

Page 7

Work Order ID: 67941

Parent Item: D350-636-016



Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/4/2011



Required Date: 4/8/2011

Start Qty: 1.00



Required Qty: 1.00

AN8C35A Purchased No 230 Each 44.0000 1 1  
  
 BOLT  xl uloalio

Location	Loc Qty	Loc Code
FP-A	44	
115188	3	
115960	18	
<u>116874</u>	23	

AN6C44A Purchased No 230 Each 54.0000 4 4  
  
 BOLT  xl uloalio

Location	Loc Qty	Loc Code
FG	2	
103964	2	
FP-B	2	11107407
115936	2	
ST344	50	
116874	50	

MS21083C8 Purchased No 230 Each 83.0000 1 1  
  
 NUT  xl uloalio

Location	Loc Qty	Loc Code
FP-B	13	
115884	13	
ST303	70	
115884	0	
117010	20	
<u>117291</u>	50	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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**NOTE:** Date & initial all entries

# Picklist Print

Page 8

Tuesday, April 05, 2011 10:04:08 AM

Work Order ID: 67941

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

D3631-1 Manufactured No

230

Each

108.0000

8

8



Washer



11 10610

## Location

## Loc Qty

## Loc Code

FP-A

8

63647

8

ST072

100

B68062

x8

66959

100

AN960C10L

NAS1149C0332

Purchased

No

230

Each

0.0000

4

4



washer

1117291



11 10610

D2745

Manufactured

No

230

Each

64.0000

8

8



Bushing



11 10610

## Location

## Loc Qty

## Loc Code

FP-A

23

63315

23

B68248

x8

ST021

41

63315

41

AN960C816L

Purchased

No

230

Each

0.0000

1

1



WASHER

NAS1149C0832R / 111415



11 10610

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Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Page 9

Tuesday, April 05, 2011 10:04:08 AM

Work Order ID: 67941

Parent Item: D350-636-016



Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/4/2011



Required Date: 4/8/2011

Start Qty: 1.00



Required Qty: 1.00

AN3C6A Purchased No 230 Each 280.0000 4 4  
  
 BOLT  all 1106110

Location	Loc Qty	Loc Code
FP-A	45	
111982	45	
ST351	235	
111982	10	
116419	75	
<u>116549</u>	50	<u>x4</u>
116704	100	

MS21043-6 Purchased No 230 Each 583.0000 4 4  
  
 NUT  all 1106110

Location	Loc Qty	Loc Code
FG	20	
103693	20	
FP-A	88	
<u>112314</u>	88	
ST301	475	<u>x4</u>
112314	475	

D3493-1 Manufactured No 250 Each 61.0000 2 2  
  
 Washer  11/4/1350

Location	Loc Qty	Loc Code
ST062	61	
62677	21	
<u>66975</u>	40	<u>2</u>

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Page 9

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Page 10

Tuesday, April 05, 2011 10:04:08 AM

Work Order ID: 67941



Parent Item: D350-636-016



Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 4/4/2011

Required Date: 4/8/2011

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased No

250 Each

83.0000 2 2



NUT



*Handwritten: uloele*

Location

Loc Qty

Loc Code

FP-B

13

115884

13

ST303

70

115884

0

117010

20

117291

50

*Handwritten: x2*

AN8C21A

Purchased No

250 Each

56.0000 2 2



BOLT



*Handwritten: uloele*

Location

Loc Qty

Loc Code

ST345

56

116381

56

*Handwritten: x2*

D2741

Manufactured No

250 Each

66.0000 1 1



*Handwritten: 1*

Blade, 350 Skidtube

Location

Loc Qty

Loc Code

ST466

66

61341

26

63589

40

*Handwritten: 1 11/05/12*

Tuesday, April 05, 2011 10:04:09 AM

Shop Packet Print

Page 10

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149CO363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149CO332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149CO832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

# GENERAL NOTES:

- MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:  
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.  
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- WELD PER DART QSI 004
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:  
MINIMUM YIELD TENSILE STRENGTH = 35 KSI  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. G-7941

*0911-04-5*

**RELEASED**  
2010-09-15

A		NEW ISSUE		SC	10.08.09
REV.		DESCRIPTION		BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.			
DRAWN	SC	PORT HADLOCK, WA			
CHECKED		DRAWING NO.	REV. A		
MFG. APPR.		D4168	SHEET 1 OF 11		
APPROVED		TITLE	SCALE		
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS		
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>			

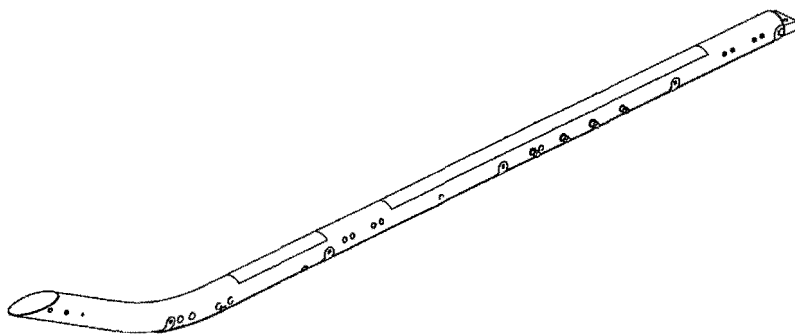
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

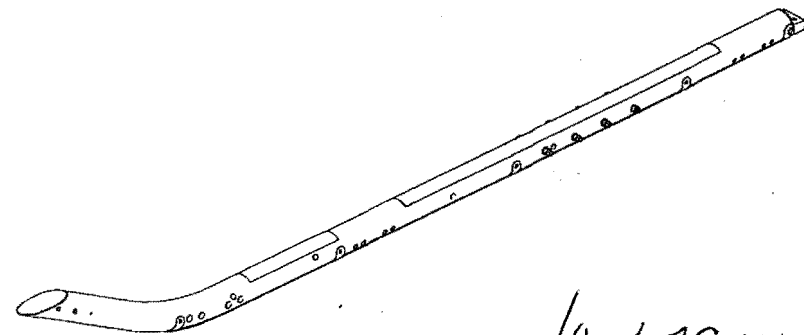
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D4168-041 350 SKIDTUBE ASSEMBLY, LH**



**D4168-042 350 SKIDTUBE ASSEMBLY, RH**

*u/o 67941*

**RELEASED**  
2010-09-15  
*JW*

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4168	SHEET 2 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>350 SKIDTUBE ASSEMBLY</b>	
DATE	10.08.09	NTS	

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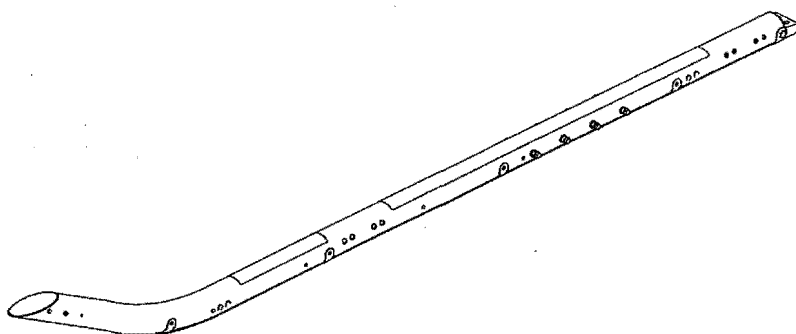
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

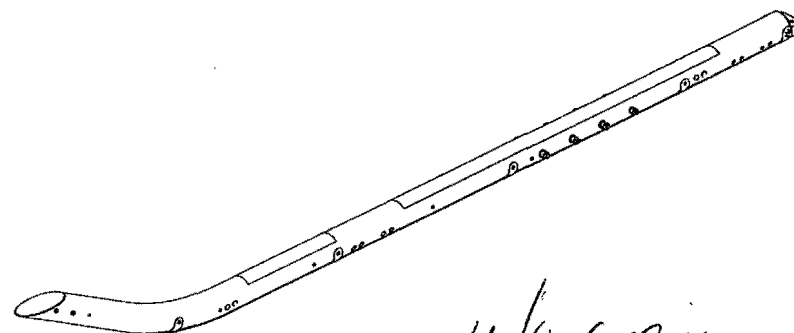
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D4168-043 350 SKIDTUBE ASSEMBLY, LH**



**D4168-044 350 SKIDTUBE ASSEMBLY, RH**

*u/b 47941*

**RELEASED**  
2010-09-15

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA	
DRAWN	SC		
CHECKED	<i>[Signature]</i>	DRAWING NO. <b>D4168</b>	REV. A
MFG. APPR.	<i>[Signature]</i>		SHEET 3 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>350 SKIDTUBE ASSEMBLY</b>	NTS
DATE	<b>10.08.09</b>	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE RELEASED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

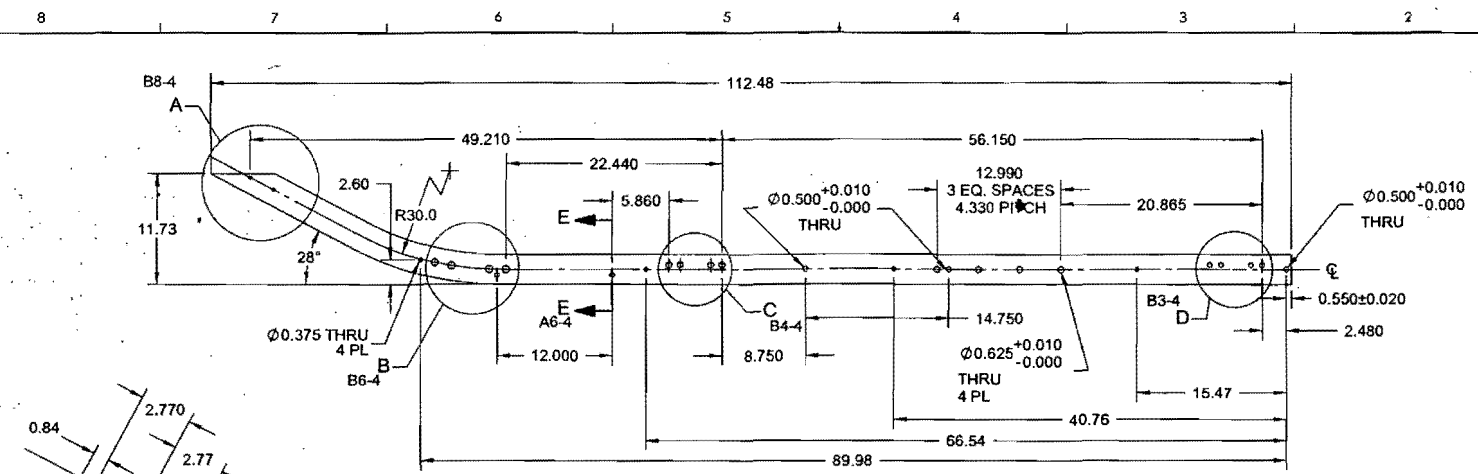
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

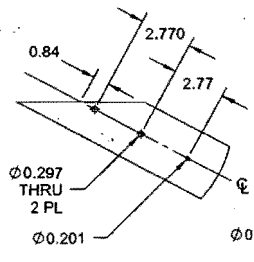
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

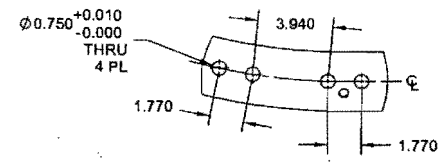
**NOTE:** Date & initial all entries



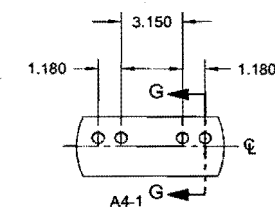
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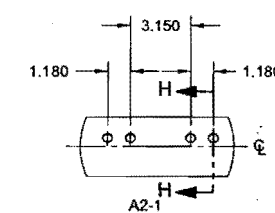
**DETAIL A**  
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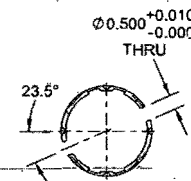
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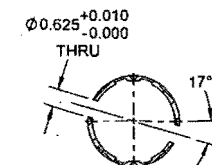
**DETAIL C**  
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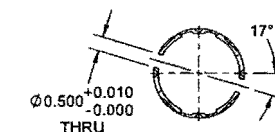
**DETAIL D**  
SCALE 2X



**SECTION E-E**  
SCALE 3X, 2 PL



**SECTION G-G**  
SCALE 3X, 4 PL



**SECTION H-H**  
SCALE 3X, 4 PL

*w/o 6794*

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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

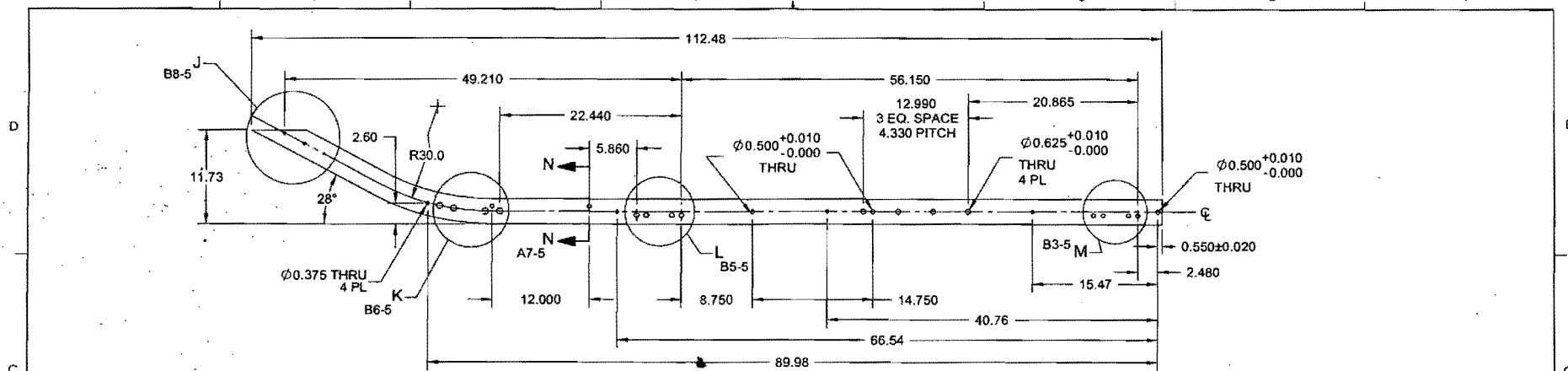
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

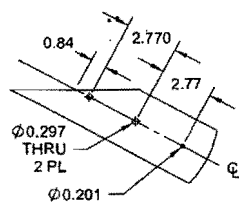
**NOTE:** Date & initial all entries



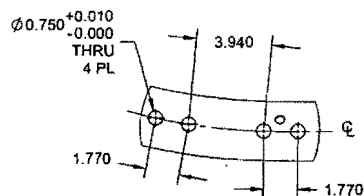
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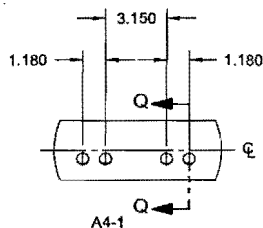
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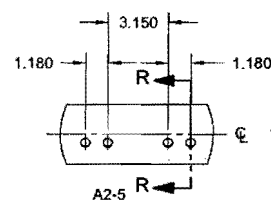
**DETAIL J**  
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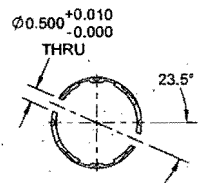
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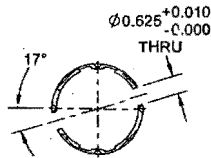
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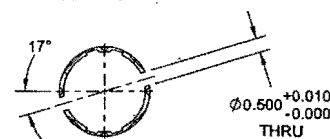
**DETAIL M**  
SCALE 2X



**SECTION N-N**  
SCALE 3X, 2 PL



**SECTION Q-Q**  
SCALE 3X, 4 PL



**SECTION R-R**  
SCALE 3X, 4 PL

*w/0 479411*

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

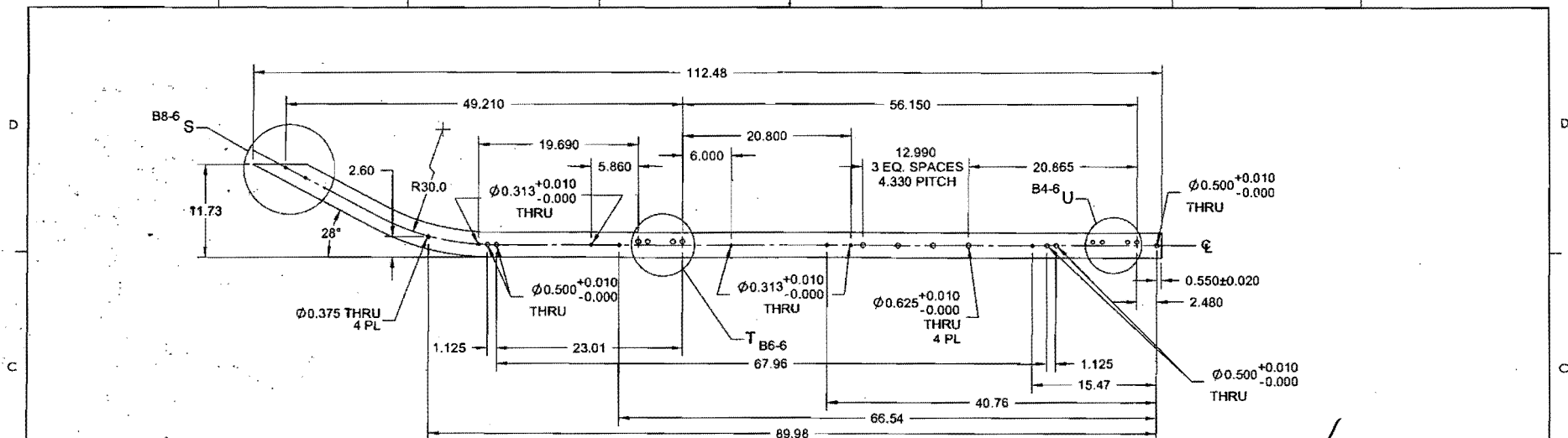
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

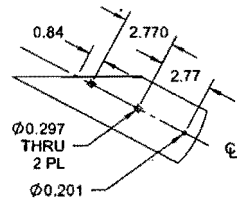
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

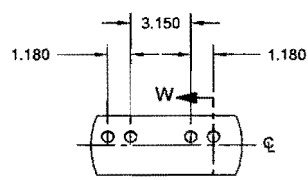
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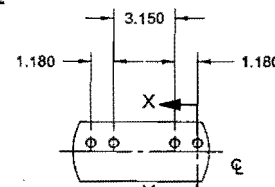
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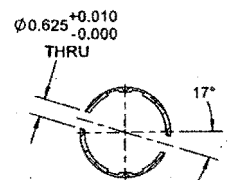
**DETAILS D8-6**  
SCALE 2X



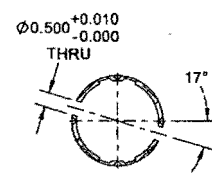
**DETAIL T C5-6**  
SCALE 2X



**DETAIL U D3-6**  
SCALE 2X



**SECTION W-W B6-6**  
SCALE 3X, 4 PL



**SECTION X-X B4-6**  
SCALE 3X, 4 PL

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8 7 6 5 4 3 2 1

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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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D

D

C

C

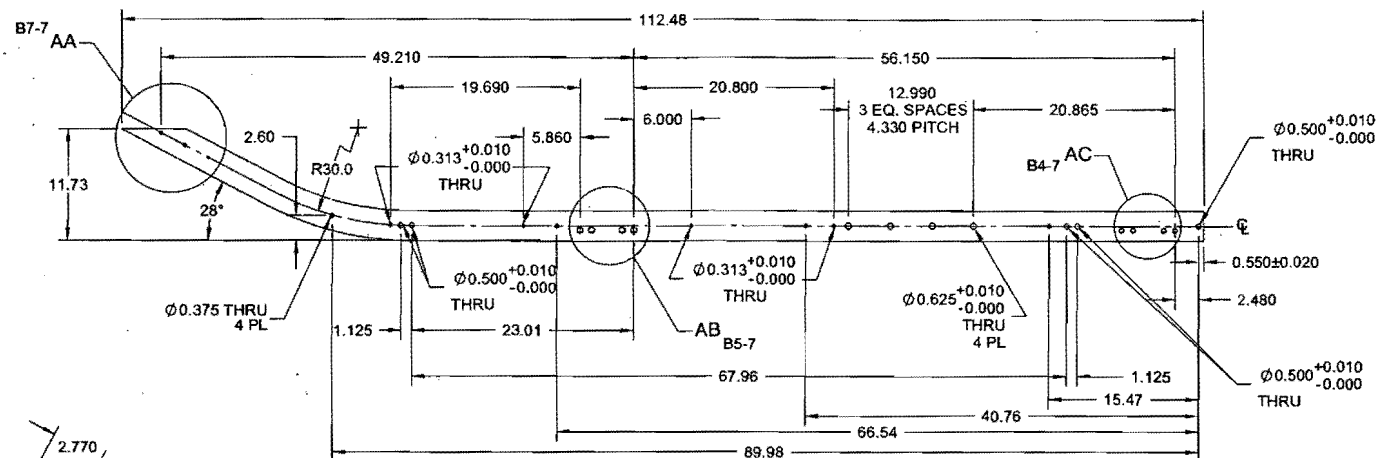
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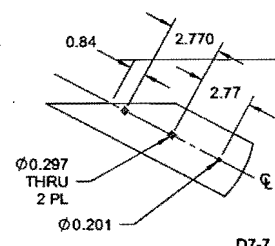
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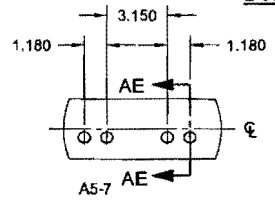
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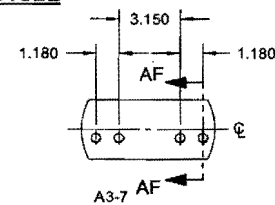
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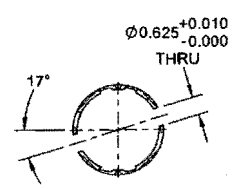
**DETAIL AA**  
SCALE 2X



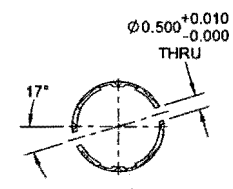
**DETAIL AB**  
SCALE 2X



**DETAIL AC**  
SCALE 2X



**SECTION AE-AE**  
SCALE 3X, 4 PL



**SECTION AF-AF**  
SCALE 3X, 4 PL

*u/047941*

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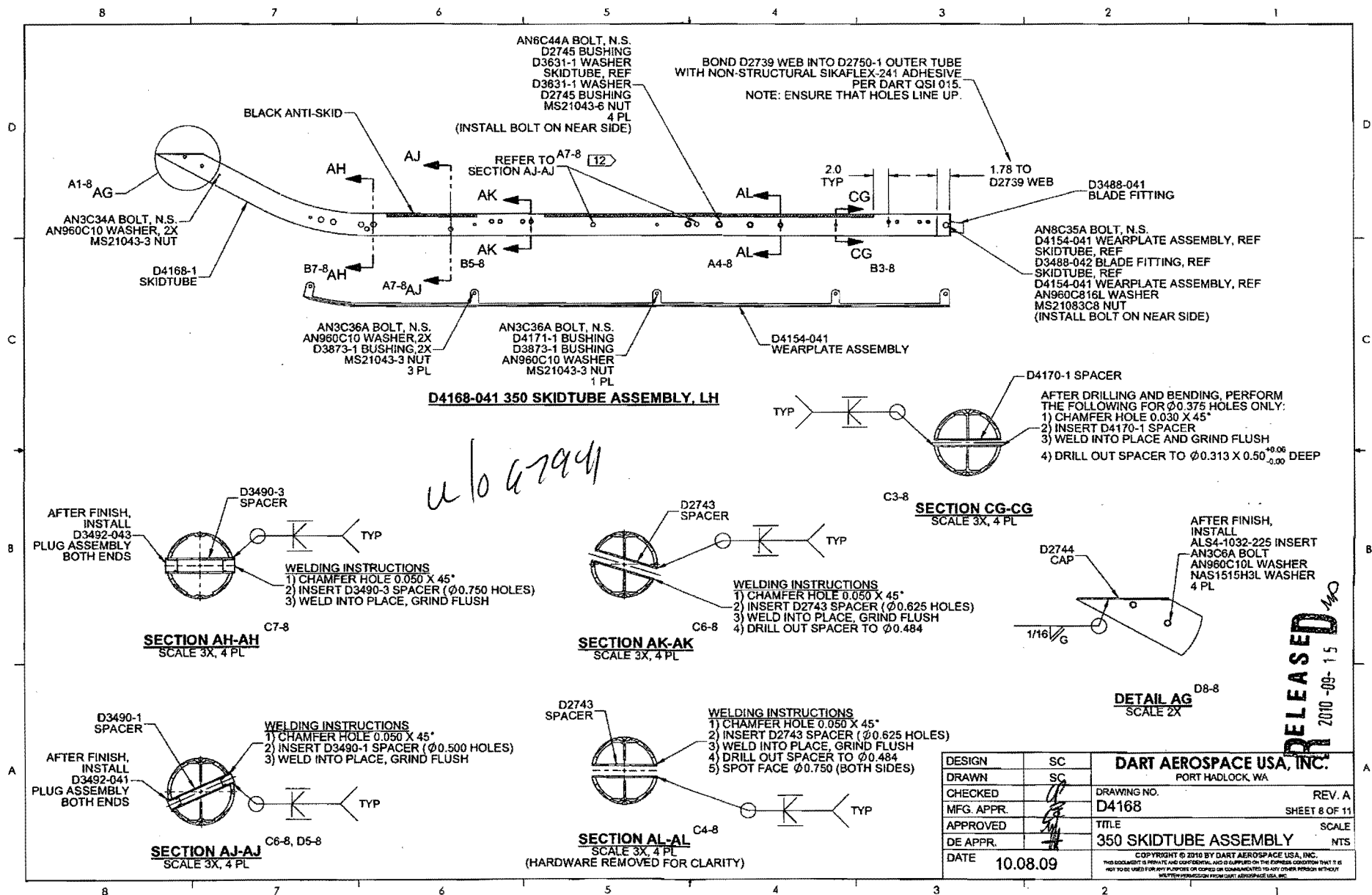
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NOTE: Date & initial all entries



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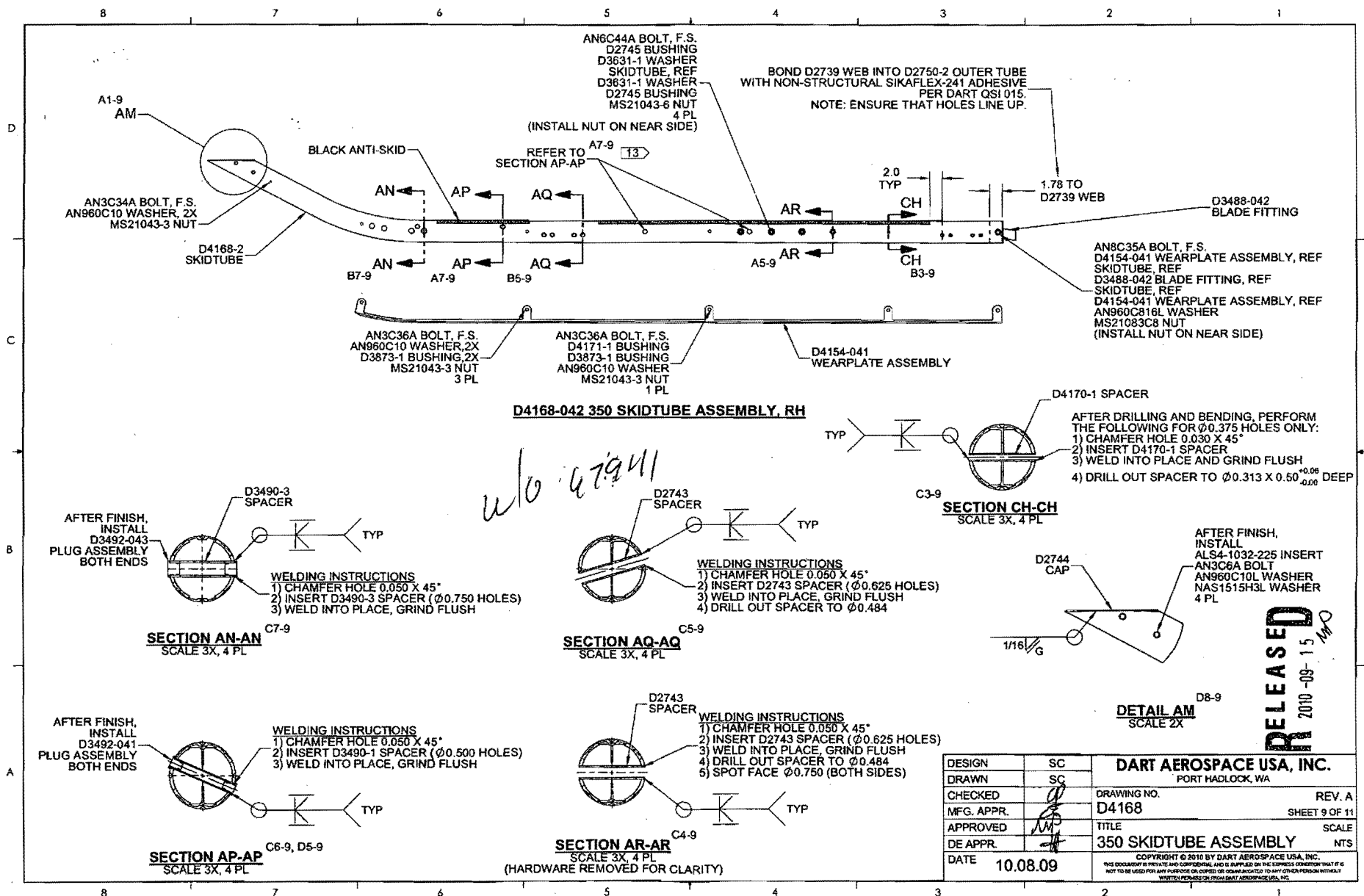
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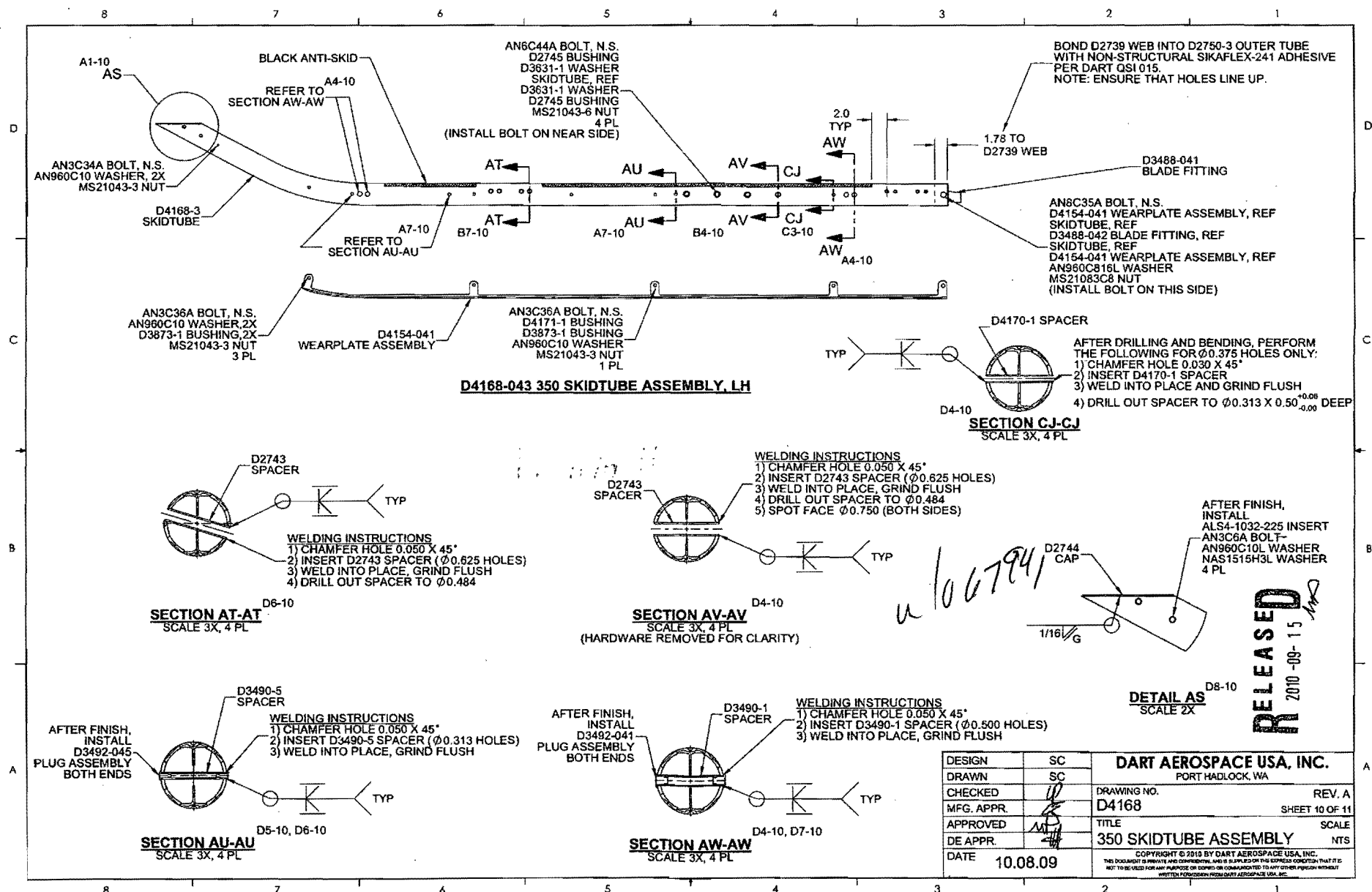
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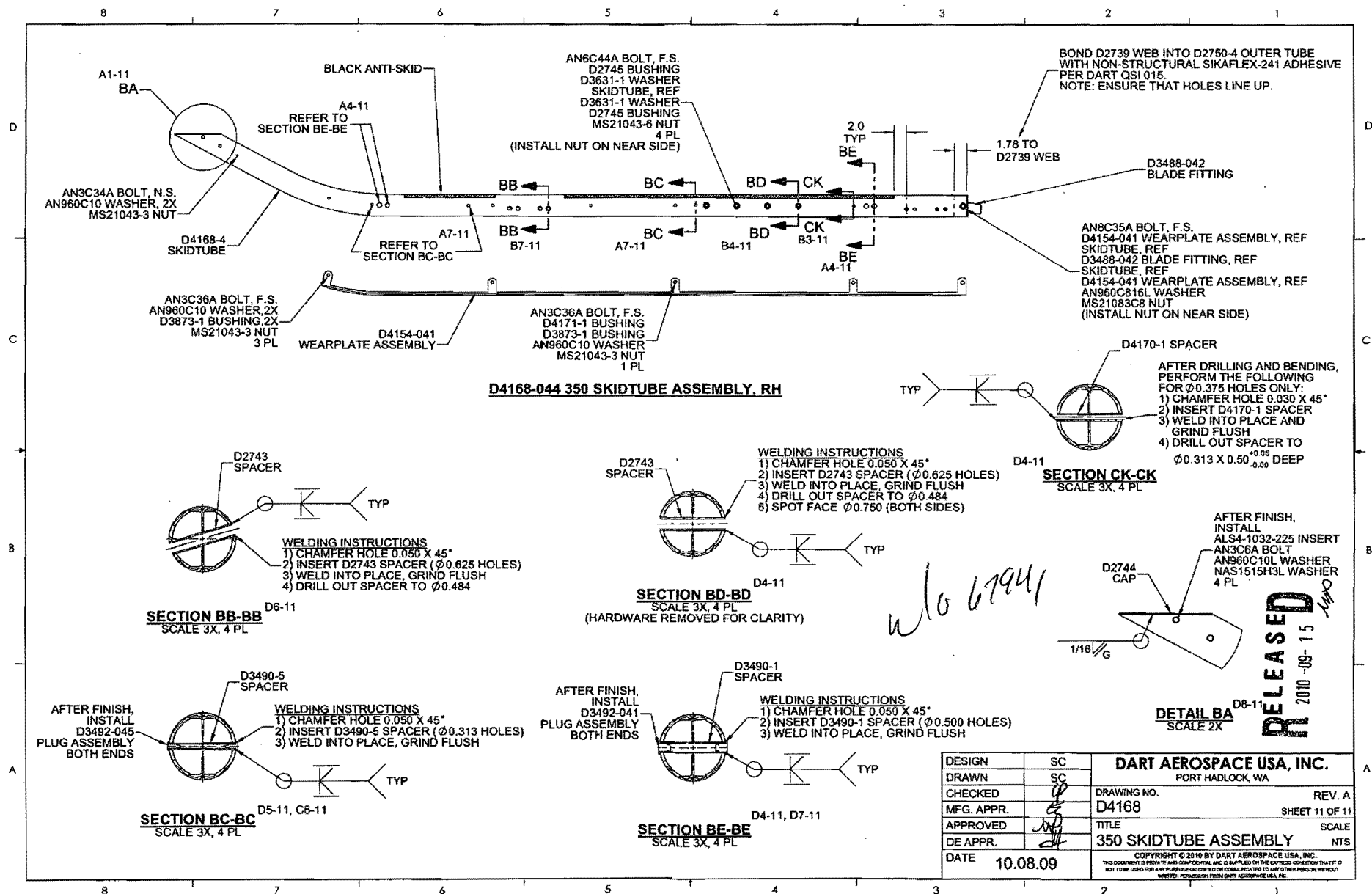
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

NO. 248

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: 67178  
Part number: D350 636 015  
Description: 350  
Welding Process: Tig ☒ Mig ☐  
Base material: Aluminum  
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐  
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐  
Undercut: pass ☒ fail ☐  
Pin holes: pass ☒ fail ☐  
Overlap (cold lap): pass ☒ fail ☐  
Porosity (surface): pass ☒ fail ☐  
Coloration: pass ☒ fail ☐

Qualifier Pat. Leys Date of Test Coupon 11.04.05  
Welder Barclay Elliott Date of Test Coupon 11.04.05

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

